

Name _____

GENETICS PRACTICE

Read carefully and follow all directions.

1. Determine if the following are
heterozygous or homozygous

- A) AA _____
- B) Tt _____
- C) Zz _____
- D) cc _____

2. Determine if the following are
phenotypes or genotypes:

- A) Green _____
- B) YY _____
- C) Wrinkled _____
- D) Rr _____

3. Use the following key regarding traits in pea plants to write genotypes and phenotypes:

- Round seed shape (R) is dominant over wrinkled seed shape (r)
- Yellow seed color (Y) is dominant over green seed color (y)

A) Write the genotype of the following:

- | | |
|--|----------|
| 1. Heterozygous round | 1. _____ |
| 2. Wrinkled | 2. _____ |
| 3. Heterozygous round and
heterozygous yellow | 3. _____ |
| 4. Green | 4. _____ |
| 5. Homozygous round and
homozygous yellow | 5. _____ |

B) Write the phenotype for the following:

- | | |
|----------|----------|
| 1. Rr Yy | 1. _____ |
| 2. yy | 2. _____ |
| 3. rr | 3. _____ |
| 4. rr Yy | 4. _____ |
| 5. Rr yy | 5. _____ |

C) Write the genotype for homozygous:

- | | |
|-------------|----------|
| 1. Round | 1. _____ |
| 2. Wrinkled | 2. _____ |
| 3. Yellow | 3. _____ |
| 4. Green | 4. _____ |

D) Write the genotype for heterozygous:

- | | |
|-----------|----------|
| 1. Yellow | 1. _____ |
| 2. Round | 2. _____ |

4. Explain the difference between genotype and phenotype.

5. Explain the difference between homozygous and heterozygous.

6. Explain why you can not have a heterozygous wrinkled or a heterozygous green pea plant.
